

Remarks

Claims 1, 2, 5, 7-10, 13-37 and 40-45 are currently pending in the application. Claims 3, 4, 6, 11, 12, 38 and 39 are cancelled. Claims 1 and 10 have been amended in this response.

Claim rejections – 35 USC § 112

Applicant notes with appreciation that the previous rejections under 35 USC § 112 have been withdrawn.

Claim 10 now stands rejected under 35 USC § 112 first paragraph as failing to comply with the requirement to enable a person skilled in the art to make and use the invention. Claim 10 is based on the summary of the invention on page 3 first paragraph of the PCT application as filed, and the clamp features claimed in claim 10 are described in the specific description at page 10 line 9 through to page 24, and in Fig 1, which is broken down into component parts in Figs 3-5. The clamp recited in claim 10 is exemplified as clamp 9 in Fig 5. The clamp 9 described in these sections of the application as filed is an annular clamp device that fits around the outer surface of the sleeve 5, and locates in the groove 6g on that outer surface as disclosed at page 10 lines 13 and 14. The clamp device 9 surrounds the sleeve and clamps it to the tubular T. As well as the annular clamp 9 that is a separate component to the sleeve and is applied to the outer surface of the sleeve 5 to engage with the groove 6g, the sleeve 5 also has bolts 5b that tighten the two leaves of the sleeve 5 together around the tubular T. Therefore, the sleeve is clamped to the tubular T by the action of the bolts 5b described in page 9 lines 6-19, and by the separate annular clamp device 9 described on page 10. Accordingly a skilled

person would obtain from these passages an entirely sufficient description of how to make the annular clamp 9, and how to use it to surround the sleeve 5, which is typically also clamped to the tubular T by its own bolts 5b tensioning the half shells together, as well as the action of the annular ring shaped clamp 9, to which claim 10 refers.

In response to the rejection, applicant submits that a skilled person would have no difficulty with understanding the subject matter claimed in claim 10, but amendments have been made to claim 10 in the present paper to clarify the arrangement even more. In this respect, claim 10 has been amended to introduce the annular clamp as a separate component and to recite that the sleeve is clamped to the drill string by mounting the annular clamp on the outer surface of the sleeve. This amendment is based on the passages recited above in pages 3 and 10, and does not add subject matter. It is most respectfully submitted that the rejection of claim 10 is traversed on this basis, and withdrawal of the rejection is most respectfully requested.

Claim rejections – 35 USC § 102

Applicant notes with appreciation that the previous rejections under 35 USC § 102 based on Yancey have been withdrawn.

Rejection of claims 1, 2, 8, 13, 14, 20-22, 24, 26, 35-37, 40-42, 44 and 45 under USC § 102(b) in view of Buttolph (US2589534).

Claims 1, 2, 8, 13, 14, 20-22, 24, 26, 35-37, 40-42, 44 and 45 now stand rejected under USC 102(b) as being anticipated by Buttolph (US2589534). According to the examiner, Buttolph teaches at column 5 line 40 that the Buttolph sleeve 13 is ...

“adapted to be opened to fit around a drill string in the well, and to be closed around the drill string and clamped thereon to secure the sleeve 13 to the drill string”

In response to this rejection, Applicant respectfully submits that this is not a correct interpretation of and Buttolph, and the reference does NOT teach that the sleeve 13 is adapted to be opened and closed around the drill string, as claimed in the present claim 1. In the Buttolph device, the sleeve 13 can be seen in cross section in Fig 6, and is clearly a solid tube, with no axial split along it that would allow it to be opened to fit around a drill pipe or to be closed around the drill pipe as presently claimed. The Buttolph sleeve 13 cannot be opened and closed at all and remains in the same tubular configuration throughout the assembly and use of the Buttolph device. The passage cited by the examiner at column 5 line 40 teaches that it is “clamped” only in the sense that it is restrained from *longitudinal* movement along the body 10 by the upper and lower collars 11 and 12. Both the collars 11 and 12 and the sleeve 13 are solid rings and therefore need to be assembled onto the tubular 10 by disconnecting the tubular 10 from the string and passing the end of the tubular 10 and the drill collar A through the axial bores of the sleeve 13 and the collars 11 and 12, before re-assembling the string. Neither the collars 11, 12 nor the sleeve 13 of Buttolph can possibly be “opened to fit around” the string or “closed around it” as presently claimed.

This is a significant difference to the presently claimed arrangement according to claim 1. In the presently claimed arrangement, the feature that the sleeve can be opened to fit

around a drill string and closed to clamp around it has at least four distinct advantages, as follows:

- 1 The string to which the sleeve is clamped does not need to be broken to apply the embodiments of the invention because the sleeve can be opened to fit around the assembled drill string (even while the drill string is in use and retaining fluids within its bore) and it is the sleeve that can then be closed around the string to clamp it in place on the string. All this can happen at the rig floor without interrupting the continuity of the string by virtue of the feature that the sleeve can be opened to fit around a drill string and closed around it.
- 2 Because the embodiments of the invention can be retrofitted to an assembled string, they can be added to a string without affecting the length or the stiffness of the string. And a greater density of tools according to the invention can be positioned at particularly problematic points on the string, for example at corners in the hole, or within sandy layers in the formation. This can be done without affecting the length of the string, which facilitates the positioning of the string in the hole.
- 3 The embodiments of the invention do not need to be located at specific points on the string and can be applied at practically any point along the string, at whatever frequency is desired by the operator, and the location of the sleeve of the invention can be determined at the well site, and adjusted before setting the clamps if necessary.
- 4 Embodiments of the invention can be fitted to drill strings of different diameters, with differences in tolerance being accommodated by the clamps, and furthermore, the sleeve of the invention does not need to be threaded over ends of tubulars, which can often be oversized as is common with pin and box arrangements.

Buttolph teaches nothing about the possibility that the sleeve can be opened to fit around a drill string and closed to clamp around it, and therefore does not anticipate the present claim 1. The rejection of claim 1 on this basis is therefore most respectfully traversed.

The remaining claims 2, 8, 13, 14, 20-22, 24, 26, 35-37, 40-42, 44 and 45 rejected on this basis are either dependent on claim 1 or also include the feature that the sleeve can be opened to fit around a drill string and closed to clamp around it. They are therefore allowable over Buttolph for the same reasons, and the rejection of these claims is therefore also respectfully traversed.

Claim rejections – 35 USC § 103

Applicant notes with appreciation that the previous objections under 35 USC § 103(a) have been withdrawn.

Rejection of Claim 5 under 35 USC § 103(a) on the basis of Buttolph in view of Yancey

Claim 5 stands rejected under 35 USC § 103(a) as being unpatentable on the basis of Buttolph in view of Yancey.

Claim 5 includes the limitations of independent claim 1, and therefore includes by that reference the feature that the sleeve is axially split along at least one side thereof and thereof can be opened to fit around a drill string and closed to clamp around it. This feature is not disclosed anywhere in Buttolph as explained above. Neither is the feature

disclosed anywhere in Yancey. As previously argued, the Yancey device also uses a solid tubular sleeve, which is assembled into the string during make up of the string and cannot be moved thereafter.

Therefore, neither Buttolph nor Yancey disclose or suggest any kind mechanism by which the sleeve can be opened to fit around a drill string and closed to clamp around it. This is NOT possible with either the Buttolph or the Yancey systems, which both require to be assembled into the string by passing the string through the inner bore of the sleeve as the string is being made up. Nothing in either document teaches or suggests that the sleeve can be applied to the made up string.

Because neither Yancey nor Buttolph disclose the feature that the sleeve can be opened to fit around a drill string and closed to clamp around it, a skilled person considering both of these documents in combination with one another as the examiner suggests would still LACK this claimed feature. Also, the combination of these two references would still lack the claimed feature that the sleeve is axially split. Therefore, the skilled person, even presented with Buttolph and Yancey and motivated to read both in combination with one another would still not be able to find any hint or suggestion, and certainly no teaching about the missing claimed feature that the sleeve can be opened to fit around a drill string and closed to clamp around it nor any teaching about the axial split, now claimed. Instead, the skilled person who considered both Yancey and Buttolph would find that both documents advocated a solid annular (ring shaped) sleeve and hence would be led AWAY from considering a split sleeve as used in the Fig 1 embodiment of the invention claimed, allowing the sleeve to be opened to fit around a drill string and closed to clamp around it. Accordingly the invention as claimed in any of the present claimed, including claims 1 and claim 5, is NOT obvious over the combined disclosure of Buttolph and Yancey.

The examiner's rejection of claim 5 on this basis is thereby most respectfully traversed.

Rejection of claims 7, 9, 10, 15-19, 23, 25, 27-29, 30-33 and 43 under USC § 103(a) in view of Buttolph (US2589534).

Claims 7, 9, 10, 15-19, 23, 25, 27-29, 30-33 and 43 currently stand rejected under USC § 103(a) in view of Buttolph.

The claims rejected on this bases are all dependent on claim 1 and therefore include the feature that the sleeve can be opened to fit around a drill string and closed to clamp around it.

These claims are therefore non-obvious for the same reasons as presented in relation to claim 1. There is no disclosure anywhere in Buttolph that might prompt a skilled person to modify the Buttolph device so that the sleeve can be opened to fit around a drill string and closed to clamp around it. Therefore, these claims are allowable at least by virtue of being dependent on an allowable base claim.

Rejection of claim 34 under 35 USC § 103(a) on the basis of Buttolph in view of Shizawa (JP62101149).

Claim 34 was rejected under 35 USC § 103(a) as being unpatentable on the basis of Buttolph in view of Shizawa (JP62101149). Claim 34 is dependent on claim 1, and therefore includes the feature that the sleeve can be opened to fit around a drill string and closed to clamp around it.

As set out above, Buttolph does not disclose the feature that the sleeve can be opened to fit around a drill string and closed to clamp around it. Shizawa also does not disclose or suggest this feature. Shizawa is not even concerned with wellbore apparatus, and does not consider any of the problems solved by the present invention. A skilled person would derive no motivation from Shizawa to adapt the Buttolph apparatus to incorporate the missing feature that the sleeve can be opened to fit around a drill string and closed to clamp around it. The documents would therefore not be combined by a skilled person.

Furthermore, as set out above, neither Buttolph nor Shizawa disclose the missing feature that the sleeve can be opened to fit around a drill string and closed to clamp around it. Therefore even if these documents were to be considered in combination, the skilled person considering that combined disclosure would still LACK the missing feature. Accordingly, it would therefore not be obvious to arrive at the invention on the basis of these documents, and it does not seem to be appropriate to reject claim 34 on this basis.

The rejection of present claim 34 is therefore most respectfully traversed.

Summary

It is respectfully submitted that all pending claims are in condition for allowance, and Applicant respectfully requests that allowance be granted. Should the Examiner have any questions or comments regarding Applicant's amendments or response, the Examiner is asked to contact Applicant's undersigned attorney.

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Respectfully submitted,

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